

*Federal Aviation Administration
Office of System Capacity*

*FAA New Large Aircraft
Facilitation Group*

FAA Air Transportation COE Joint Meeting
Hilton Oceanside Resort - Daytona Beach, FL
Donald J. Guffey – November 6, 2003



Today's Presentation

- **FAA NLA Facilitation Group**
 - **Overview**
 - **Operational Issues & Topical Session**
 - **Research Issues, Completed, On-Going, & Near-Term**
 - **Fast-Time Ground Movement Operations Simulation Studies**



FAA's NLA Facilitation Group

- Members Include:
 - FAA Airports, Air Traffic, Flight Standards, Security, Satellite Office & System Capacity
 - Boeing and Airbus Industrie
 - ACI – NA & Municipal Airport Authorities
 - ATA & Air Line(s) (FedEx)
 - IFALPA & ALPA



FAA's NLA Facilitation Group

- Facilitation Group Goals
 - Identify Operational Issues For NAS Integration
 - Influence The Design Of NLA
 - Influence Design Group VI Standards
 - Influence ICAO Obstacle Clearance Panel (OCP)
- Operating Design Group VI Aircraft at Design Group V Airports



FAA's NLA Facilitation Group

- Range Of Operational Issues
 - Overall Size
 - Dimensional Clearances - OFZ
 - Minimum Taxiway & Runway Separations & Wingtip to Wingtip Clearances
 - Overall Weight – Bridges/Culverts Not Pavement Load
 - Pavement Effects – Overlapping Cones of Influence
 - Wake Vortex – In-Trail Separation Based on Weight
 - Capacity - Separation & Operational Restrictions
 - Aircraft Rescue and Fire Fighting (ARFF)



FAA's NLA Facilitation Group

- Topical Sessions – Bi-Annual w/Phased Research
 - Jan 01 – Wake Vortex/Wake Turbulence
 - Mar 01 – Pavement
 - May 01 – Aircraft Rescue and Fire Fighting
 - Sept 02 – Taxiway Centerline Deviation Methodology
 - Nov 02 – European Operating Dimensions Work Group
- Potential Future Topical Sessions
 - Jan 02 – Aircraft Rescue and Fire Fighting
 - Terminals/Passenger Loading/Turn Times



FAA's NLA Facilitation Group

- Completed Research Issues/Operational Issues
 - FAA Obstacle Free Zone (OFZ) - FMS Coupled
 - » Design Group V OFZ Not Need to Increase w/CAT II Auto Land Approach Even in VFR & CAT I
 - ICAO OFZ – Boeing NLA Simulator FMS Coupled
 - » Obstacle Clearance Panel Meeting Nov 02
 - Taxiway Centerline Deviation Study
 - » JFK Initial Data Collection Completed
 - » ANC Data Collection Completed



FAA's NLA Facilitation Group

- On-Going Research Issues
 - FAA Obstacle Free Zone (OFZ) – Flight Director
 - » Boeing NLA Sim Hand Flown with FMS Inputs
 - » IFALPA – No CAT II after 14 hours of flight
 - ICAO OFZ - Flight Director Model
 - » Next Chapter in ICAO Document
 - FAA Obstacle Free Zone (OFZ) - FMS Coupled
 - » Airbus A340/380 Autocoupled FMS
 - » Engine Out Aborted Take Offs (200' Runway)



FAA's NLA Facilitation Group

- On-Going Research Issues (con't)
 - Taxiway Centerline Deviation Study
 - » Single Accepted Methodology to Use All Previous Study Data (International)
 - » JFK Multiple Locations Collection 2003
 - » Use of Risk Assessment (Runway Incursions)
 - Request for Modification of Standards
 - » MEM Runway Taxiway Separation 550 ft
 - » JFK Four Dimensions - TW Width, RW-TW Sep, RW – Service Road Sep, RW – Fixed Object Sep,



FAA's NLA Facilitation Group

- Near Term Research Issues
 - Satellite-Based Ground Navigation
 - » Taxiway Centerline Deviation, if RA not enough
 - Wake Vortex (Curse of the Single Parameter – Weight)
 - Jet Blast (Path Planner)
 - ARFF (Calculation of Q1 & Q2 Agents for A380-800)
 - Minimum Operating Procedures
 - » For Example, NLA on Final at OM, then CAT II Critical Areas Sterilized, No DG 5 Aircraft on Middle 6,000' of the Parallel Taxiway, etc, etc.



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- FAST-TIME SIMULATION of DELAY COSTS
- MEM Fed Ex 6 A380F/TANG C5Bs (Completed)
 - No Impact, if 550' RW/TW Separation “Waived”
- JFK NLA Modeling - Modification to Standards
 - 4 Requests - 2 or 3 with National Implications
 - Operational Restrictions for Crossing Bridges, DG6 on Outer Taxiway/DG5 on Inner, and Others
 - 20 Aircraft and 40 Daily Operations
 - PacRim, Middle East, European, and Cargo Pushes



FAA's NLA Facilitation Group

- Transportation Research Board Session
 - NLA Session January 12-14 Washington DC
 - » Research/Regulator Perspective
 - » Airport Perspective
 - » Airline Operator Perspective
 - » Aircraft Manufacture Perspective



Summary

- FAA's NLA Facilitation Group
 - Continued and Accelerated Research to Change the Necessary Design Standards with Enough Time to Implement the Construction on Airports (Need More RE&D Money!)
 - Operating "Procedures" for Design Group VI Aircraft at Design Group V Airports
 - 3 Airports Meet Standards DFW, IAD, & MCO



FAA's NLA Facilitation Group

- FAA's NLA Website
- GAO Introduction Report Briefing to NLA FG
- Airport Capacity Enhancement Plans
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- www.faa.gov/ats/asc